

In the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (currently amended) A process for preparing a porous material having interconnected pores, comprising the following steps:

Simultaneously dissolving one or more kinds of bioresorbable polymers and a low molecular weight oligomer in an organic solvent to form a bioresorbable polymer solution; and

a coagulating step: exposing the bioresorbable polymer solution to a coagulant to form the porous material, wherein the low molecular weight oligomer is soluble in the coagulant, and the bioresorbable polymer is insoluble in the coagulant.

2. (original) The process as claimed in claim 1, before the coagulating step, further comprising a step of making the bioresorbable polymer solution to form a pre-form.

3. (original) The process as claimed in claim 2, wherein the pre-form forming step includes coating the bioresorbable solution onto a mold surface.

4. (original) The process as claimed in claim 2, wherein the pre-form forming step includes pouring the bioresorbable solution into a container.

5. (original) The process as claimed in claim 2, further comprising a step of drying the pre-form to partially or completely remove the organic solvent on the pre-form surface.

6. (original) The process as claimed in claim 5, wherein the drying step makes the pre-form form a gel surface or a tack-free surface.

7. (original) The process as claimed in claim 5, wherein the drying step is conducted in air at room temperature, by heating, in an oven, at a reduced pressure, or by radiation.

8. (original) The process as claimed in claim 1, wherein the bioresorbable polymer has a molecular weight of 20,000 to 1,500,000.

9. (original) The process as claimed in claim 1, wherein the bioresorbable polymer is polycaprolactone (PCL), polylactic acid (PLA), poly-L-lactide (PLLA), polyglycolic acid (PGA), poly-lactic-co-glycolic acid copolymer (PLGA copolymer), polycaprolactone-polylactic acid copolymer (PCL-PLA copolymer), polycaprolactone-polyethylene glycol copolymer (PCL-PEG copolymer), or mixtures thereof.

10. (original) The process as claimed in claim 9, wherein the bioresorbable polymer is a mixture of PCL and PLA.

11. (original) The process as claimed in claim 9, wherein the bioresorbable polymer is a mixture of PCL and PLGA copolymer.

12. (original) The process as claimed in claim 1, wherein the low molecular weight oligomer has a molecular weight of 200 to 10,000.

13. (original) The process as claimed in claim 12, wherein the low molecular weight oligomer has a molecular weight of 200 to 5000.

14. (original) The process as claimed in claim 1, wherein the low molecular weight oligomer is polycaprolactone triol (PCLTL), polycaprolactone diol (PCLDL), polycaprolactone (PCL), polylactic acid (PLA), polyethylene glycol (PEG), polypropylene glycol (PPG), polytetramethylene glycol (PTMG), or mixtures thereof.

15. (original) The process as claimed in claim 1, wherein the organic solvent for dissolving the bioresorbable polymer and the low molecular weight oligomer is N,N-dimethylformamide (DMF), N,N-dimethylacetamide (DMAc), tetrahydrofuran (THF), an alcohol, chloroform, dichloromethane (DCM), 1,4-dioxane, or mixtures thereof.

16. (original) The process as claimed in claim 1, wherein the bioresorbable polymer is present in an amount of 5-70% weight fraction of the bioresorbable polymer solution.

17. (original) The process as claimed in claim 16, wherein the bioresorbable polymer is present in an amount of 10-50% weight fraction of the bioresorbable polymer solution.

18. (original) The process as claimed in claim 1, wherein the low molecular weight oligomer is present in an amount of 10-80% weight fraction based on the non-solvent portion of the bioresorbable polymer solution.

19. (original) The process as claimed in claim 1, wherein the coagulant is water, an organic solvent, a mixture of water and an organic solvent, or a mixture of organic solvents.

20. (original) The process as claimed in claim 19, wherein the coagulant is a mixture of water and an organic solvent and the organic solvent is present in an amount of 5-90% weight fraction.

21. (original) The process as claimed in claim 20, wherein the organic solvent in the coagulant is an amide, a ketone, an alcohol, or a mixture thereof.

22. (original) The process as claimed in claim 21, wherein the organic solvent in the coagulant includes a ketone and an alcohol.

23. (original) The process as claimed in claim 1, wherein the step of exposing the bioresorbable polymer solution to a coagulant is performed at a temperature of 5°C to 60°C.

24. (original) The process as claimed in claim 23, wherein the step of exposing the bioresorbable polymer solution to a coagulant is performed at a temperature of 10°C to 50°C.

25. (original) The process as claimed in claim 1, after the bioresorbable polymer solution is exposed to the coagulant, further comprising washing the porous bioresorbable material in a washing liquid.

26. (original) The process as claimed in claim 25, wherein the washing liquid is water, an organic solvent, a mixture of water and an organic solvent, or a mixture of organic solvents and the organic solvent in the washing liquid is a ketone, an alcohol, or a mixture thereof.

27. (currently amended) A process for preparing a porous material having interconnected pores, comprising the following steps:

Simultaneously dissolving one or more kinds of bioresorbable polymers and a low molecular weight oligomer in an organic solvent to form a bioresorbable polymer solution;

making the bioresorbable polymer solution to form a pre-form;

drying the pre-form to partially or completely remove the organic solvent on the pre-form surface; and

exposing the pre-form to a coagulant to form the porous material, wherein the low molecular weight oligomer is soluble in the coagulant and the bioresorbable polymer is insoluble in the coagulant.